

AUG 14 2007

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### AMENDMENTS TO CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of attenuating a cancer in a mammal ~~consisting of comprising~~

administering to said the mammal a composition comprising an amount of one or more Group B  $\beta$ -hemolytic *Streptococci* ("GBS") toxin receptors having an amino acid sequence substantially identical to of HP59 or SP55 or an amino acid sequence of HP59 or SP55 with at least one conservative amino acid substitution or immunogenic fragments thereof,

wherein the amount is effective to induce or maintain an immune response in the mammal to at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors, and

wherein the cancer is a solid tumor cancer associated with pathological neovasculature.

2-3. (Canceled)

4. (Currently Amended) The method of claim 1, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors has an amino acid sequence substantially identity to of SEQ ID NO: 2.

5. (Currently Amended) The method of Claim [[4]] 1, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors has an amino acid sequence is identical to SEQ ID NO: 2, or is of SEQ ID NO: 2 with at least one conservative amino acid substitution.

6-7. (Cancelled)

8. (Currently Amended) The method of claim 1, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors has substantial identity an amino acid sequence of to SEQ ID NO: 4.

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9. (Currently Amended) The method of claim 8, wherein at least one other of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors has ~~substantial identity~~ an amino acid sequence of ~~to~~ SEQ ID NO: 2.

10. (Currently Amended) The method of claim ~~[[8]]~~ 1, wherein at least one ~~other of the one or more~~ Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptors~~ ~~receptor is~~ has an amino acid sequence identical to ~~SEQ ID NO: 4, or is of~~ SEQ ID NO: 4 with at least one conservative amino acid substitution.

11-14. (Cancelled)

15. (Currently Amended) The method of claim 1, wherein ~~the~~ a normal tissue of the mammal does not contain ~~the~~ a Group B  $\beta$ -hemolytic *Streptococci* toxin receptor.

16. (Currently Amended) The method of claim 1, wherein the administering composition is administered via a method selected from the group consisting of oral ingestion, nasal inhalation, subcutaneous injection, intravenous injection, intramuscular injection, intraperitoneal injection and rectal injection.

17-30. (Canceled)

31. (Currently Amended) The composition of Claim ~~[[30]]~~ 35, further comprising a pharmaceutically acceptable excipient.

32. (Cancelled)

33. (Currently Amended) The composition of claim ~~[[30]]~~ 35, further comprising an adjuvant.

34. (Currently Amended) The composition of claim 33, wherein ~~said~~ the adjuvant is selected from the group consisting of~~[[:]]~~ a water in oil composition, Freund's adjuvant, QS21, IL-12 and interferon gamma.

35. (Currently Amended) ~~The~~ A ~~composition of claim 32, comprising an amount of one or more~~ Group B  $\beta$ -hemolytic *Streptococci* toxin receptors having an amino acid sequence of HP59

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or SP55 or an amino acid sequence of HP59 or SP55 with at least one conservative amino acid substitution,

wherein the amount is effective to induce or maintain an immune response in the mammal to at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors,

wherein the at least one of the one or more isolated Group B  $\beta$ -hemolytic *Streptococci* toxin receptors with an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, are is conjugated or linked to a protein carrier, and

wherein the cancer is a solid tumor cancer associated with pathological neovasculature.

36. (Original) The composition of claim 35, wherein the protein carrier is a molecule selected from the group consisting of keyhole limpet hemocyanin (KLH), bovine serum albumin (BSA), ovalbumin, human serum albumin, human gamma globulin, chicken immunoglobulin G, bovine gamma globulin and tetanus toxoid.

37. (Currently Amended) The composition of claim ~~[[30]]~~ 35, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors ~~or fragments thereof~~ is glycosylated.

38. (Currently Amended) The composition of claim ~~[[30]]~~ 35, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin receptors ~~or fragments thereof~~ is recombinant or synthetic.

39. (Canceled).

40. (Currently Amended) The composition of claim ~~[[30]]~~ 35, wherein at least one ~~other of the one or more~~ Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptor~~ receptors has an amino acid sequence of substantial identity to SEQ ID NO: 2.

41. (Currently Amended) The composition of claim ~~[[40]]~~ 35, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptor~~ receptors has an amino acid

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~~sequence is identical to SEQ ID NO: 2, or of~~ is SEQ ID NO: 2 with at least one conservative amino acid substitution.

42. (Currently Amended) The composition of claim ~~[[30]]~~ 40, wherein at least one other of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptor~~ receptors has an amino acid sequence of substantial identity to SEQ ID NO: 4.

43-44. (Cancelled)

45. (Currently Amended) The composition of claim ~~[[30]]~~ 35, wherein at least one of the one or more Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptor~~ receptors has an amino acid sequence of substantial identity to SEQ ID NO: 4.

46. (Currently Amended) The composition of claim ~~[[45]]~~ 35, wherein at least one ~~other of the one or more~~ Group B  $\beta$ -hemolytic *Streptococci* toxin ~~receptor~~ receptors is has an amino acid sequence identical to SEQ ID NO: 4, or is of SEQ ID NO: 4 with at least one conservative amino acid substitution.

47-58. (Canceled)

59. (New) A method of attenuating a cancer in a mammal comprising

administering to the mammal a composition comprising an amount of an immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprising one or more amino acid sequences selected from the group consisting of amino acid residues 49-63 of SEQ ID NO: 2, amino acid residues 112-125 of SEQ ID NO: 2, amino acid residues 8-28 of SEQ ID NO: 2, amino acid residues 49-76 of SEQ ID NO: 2, amino acid residues 14-19 of SEQ ID NO: 4, amino acid residues 75-80 of SEQ ID NO: 4, amino acid residues 25-30 of SEQ ID NO: 4, amino acid residues 9-35 of SEQ ID NO: 4, amino acid residues 8-22 of SEQ ID NO: 4 and amino acid residues 71-84 of SEQ ID NO: 4,

wherein the amount is effective to induce or maintain an immune response in the mammal to a Group B  $\beta$ -hemolytic *Streptococci* toxin receptor, and

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wherein the cancer is a solid tumor cancer associated with pathological neovasculature.

60. (New) The method of claim 59, wherein a normal tissue of the mammal does not contain the Group B  $\beta$ -hemolytic *Streptococci* toxin receptor.

61. (New) The method of claim 59, wherein the composition is administered via a method selected from the group consisting of oral ingestion, nasal inhalation, subcutaneous injection, intravenous injection, intramuscular injection, intraperitoneal injection and rectal injection.

62. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 49-63 of SEQ ID NO: 2.

63. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 112-125 of SEQ ID NO: 2.

64. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 8-28 of SEQ ID NO: 2.

65. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 49-76 of SEQ ID NO: 2.

66. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 14-19 of SEQ ID NO: 4.

67. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 75-80 of SEQ ID NO: 4.

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68. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 25-30 of SEQ ID NO: 4.

69. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 9-35 of SEQ ID NO: 4.

70. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 8-22 of SEQ ID NO: 4.

71. (New) The method of claim 59, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 71-84 of SEQ ID NO: 4.

72. (New) A composition comprising an amount of an immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprising one or more amino acid sequences selected from the group consisting of amino acid residues 49-63 of SEQ ID NO: 2, amino acid residues 112-125 of SEQ ID NO: 2, amino acid residues 8-28 of SEQ ID NO: 2, amino acid residues 49-76 of SEQ ID NO: 2, amino acid residues 14-19 of SEQ ID NO: 4, amino acid residues 75-80 of SEQ ID NO: 4, amino acid residues 25-30 of SEQ ID NO: 4, amino acid residues 9-35 of SEQ ID NO: 4, amino acid residues 8-22 of SEQ ID NO: 4, and amino acid residues 71-84 of SEQ ID NO: 4,

wherein the amount is effective to induce or maintain an immune response in the mammal to a Group B  $\beta$ -hemolytic *Streptococci* toxin receptor,

wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide is conjugated or linked to a protein carrier, and

wherein the cancer is a solid tumor cancer associated with pathological neovasculature.

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73. (New) The composition of claim 72, further comprising a pharmaceutically acceptable excipient.

74. (New) The composition of claim 72, further comprising an adjuvant.

75. (New) The composition of claim 72, wherein the adjuvant is selected from the group consisting of a water in oil composition, Freund's adjuvant, QS21, IL-12 and interferon gamma.

76. (New) The composition of claim 72, wherein the protein carrier is a molecule selected from the group consisting of keyhole limpet hemocyanin (KLH), bovine serum albumin (BSA), ovalbumin, human serum albumin, human gamma globulin, chicken immunoglobulin G, bovine gamma globulin and tetanus toxoid.

77. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide is glycosylated.

78. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide is recombinant or synthetic.

79. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 49-63 of SEQ ID NO: 2.

80. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 112-125 of SEQ ID NO: 2.

81. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 8-28 of SEQ ID NO: 2.

82. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 49-76 of SEQ ID NO: 2.

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83. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 14-19 of SEQ ID NO: 4.
84. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 75-80 of SEQ ID NO: 4.
85. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 25-30 of SEQ ID NO: 4.
86. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 9-35 of SEQ ID NO: 4.
87. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 8-22 of SEQ ID NO: 4.
88. (New) The composition of claim 72, wherein the immunogenic Group B  $\beta$ -hemolytic *Streptococci* toxin receptor peptide comprises a sequence consisting of amino acid residues 71-84 of SEQ ID NO: 4.
89. (New) The method of Claim 1, wherein the cancer is lung cancer or melanoma.
90. (New) The composition of Claim 35, wherein the cancer is lung cancer or melanoma.
91. (New) The method of Claim 59, wherein the cancer is lung cancer or melanoma.
92. (New) The composition of Claim 72, wherein the cancer is lung cancer or melanoma.